

DISCRIMINATIVE SOI WITH OXIDE HOLES UNDERNEATH DC SOURCE/DRAIN

ABSTRACT OF THE DISCLOSURE

A selective SOI structure having body contacts for all the devices while excluding the buried oxide that is directly underneath diffusions of DC nodes such as applied voltage Vdd, ground GND, reference voltage Vref, and other like DC nodes is provided. The selective SOI structure of the present invention can be used in ICs to enhance the performance of the circuit. The selective SOI structure of the present invention includes a silicon-on-insulator (SOI) substrate material comprising a top Si-containing layer having a plurality of SOI devices located thereon. The SOI devices are in contact with an underlying Si-containing substrate via a body contact region. A DC node diffusion region not containing an underlying buried oxide region is adjacent to one of the SOI devices.